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ABSTRACT

The Texas Skills Development Program (TSDP) is a key long-term strategy of the Smart Jobs initiative that will assist Texas business, industry, and labor in conveying job skill requirements to the public education and training system. Employers feel that job applicants do not have the basic reading, writing, and computation skills they need. TSDP offers a strategy to teach and train to the skill standards set by business and industry. Research has focused on defining the standards: explicit skills for duties and tasks within specific occupations. The research shows concern about the following core competencies: basic academic content and workplace skills; need for technical skills; need for an industry-driven curriculum; need for industry-recognized credentials; and a sense of urgency. Recommendations are as follows: adopt principles of the Secretary's Commission on Achieving Necessary Skills (SCANS) and set standards for core skills, including foundation and workplace skills; implement a statewide system of incentives for the public schools to engage in curriculum development and professional development; market the issue of skill standards and certifications; build consensus and partnerships; build a structure and system to distribute industry-validated standards and curricula; and institute a system of industry recognized certifications. (Appendixes include a figure depicting career path skills leading to Smart Jobs and a list of nine additional publications on TSDP.) (YLB)

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TEXAS

Report to the Governor

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Skills Development Program

CERTIFIED TEXAS WORK FORCE

Smart Jobs Strategies:
An industry-driven skill standards and certifications system is one of the key strategies that will assist Texas in building a world-class work force.

CE 066 345

This Report to the Governor is one in a series of documents that will be produced by the Texas Department of Commerce concerning skill standards and certifications and their implications to Texas' work force development agenda.

August 1993

Dear Governor Richards,

This report and recommendations are submitted by the Texas Skills Development Panel, a steering group of business, industry and labor representatives who have assisted the Texas Department of Commerce in responding to your call for a statewide program to establish employability standards. We advised Commerce on the development of the program and formulated specific recommendations for your consideration.

We consider the Texas Skills Development Program to be a key "Smart Jobs" strategy. Texas can develop a world-class work force with a system of world-class, business and industry-driven, skill standards. Our state's education and training institutions need employability standards for basic, workplace and technical skills.

While our primary objective was to provide recommendations concerning occupational-technical skill standards, we have concluded that the establishment of high standards for technical skills is contingent upon high standards for basic and workplace skills. Our overarching concern is with the core skills of Texas graduates and workers. Basic skills such as reading comprehension, composition and computation connected to higher-order workplace skills like problem-solving and the ability to work in teams, to analyze cause and effect and to understand complex systems are at the heart of building a competitive work force.

We believe that these workplace skills, framed by standards and reflected in curricula, are the critical elements that will link employers' requirements to what is taught in Texas' education and training institutions. We must first set standards for the core skills to be acquired by our graduates. We are supporting a statewide pilot project that will demonstrate a method to identify standards for core skills and to incorporate those standards into curriculum that is recognized by business and industry.

The Panel wishes to enlist the full support and involvement of all the firms, organizations, agencies and customers that stand to benefit from a skill standards and certification strategy in Texas. You have our full support in building the New Texas Prosperity and a work force capable of competing in a global economy.

Sincerely,

Texas Skills Development Panel

TEXAS SKILLS DEVELOPMENT PANEL

A steering group established to advise the Texas Department of Commerce on strategy for the Texas Skills Development Program.

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Texas Skills Development Program

Report to the Governor

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ACKNOWLEDGEMENTS

Cathy Bonner, Executive Director, Texas Department of Commerce, wishes to acknowledge the many customers who have helped shape the Texas Skills Development Program. Texans participated in focus groups, answered surveys, attended meetings and spoke candidly and passionately about the issues. Cutting-edge business and industry leaders, along with state and national academicians with expert knowledge on work force issues steered us in the right direction. We thank you.

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Note: While this report represents many of the needs, concerns and issues raised by our customers and colleagues, the specific recommendations in the report are those of the Texas Skills Development Panel and the Texas Department of Commerce.

PREFACE

"Texas Skills Development Program: Report to the Governor" lays out recommendations to Governor Ann Richards for building a world-class Texas work force by creating an industry-driven skill standards and certification system. The program has been tagged "the long-term engine" of the Governor's Smart Jobs Plan. This report, guided and presented by the Texas Skills Development Panel, was prepared by the Texas Department of Commerce, Work Force Development Division.

The approach and recommendations represent a year-long research initiative that involved the advice and contribution of the many potential "customers" of the Texas Skills Development Program. Employees of businesses across Texas participated in focus group experiments. Their contributions sparked the fire that placed us on the fast track toward addressing "core skills" and "higher-order" "transferable" skills as a means to address occupational-technical skill requirements. The Panel wholeheartedly agreed with the focus groups. Panel members advised us that "if Texas' schools and training institutions can ensure basic and workplace skills, plus broad occupational-technical skills, Texas' businesses can train workers to individual company tool sets." This critical reality switched on the engine of the Texas Skills Development Program and placed it squarely in the middle of Texas' education reform agenda.

Acknowledgement of Texas' business and industry concerns has caused our current research to delve into methods and strategies that would connect the foundation skills with occupational-technical skills. The need for this connection is central to President Clinton's "School-to-Work" initiative. The challenge ahead is to integrate academic and vocational-technical training, establish clear career path options and develop a work force preparation system that meets employers' needs. We believe that a system of skill standards and certifications for core skills and occupational-technical skills will do just that.

With the leadership of Texas business, industry and labor, and partnerships with education and training innovators, the Texas Department of Commerce is committed to a high-speed effort that will fuel our states' work force preparation system with the tools for creating a high-skills, high-wage Texas work force.

Barbara Cigainero, Director
Texas Department of Commerce
Work Force Development Division

Texas Skills Development Program

"Unlike other states' economic development strategies, I am not going to try to sell our state's assets to foreign buyers. I will be on the road selling Texas-made goods and services to anyone in the world wanting to buy them. And I will sell our labor force and our commitment to high-skill and high-wage jobs of the future."

—Governor Ann Richards

INTRODUCTION

Texas' Economic/Work Force Competitiveness Agenda

Governor Richards launched "The New Texas Prosperity" as an economic development campaign designed to create the changes necessary for Texas to compete successfully in the world marketplace. "The New Texas Prosperity" is to come from building new foundations in education, work force training, and business and labor development. The Texas Department of Commerce is to lead much of that building in partnership with its allies in business and labor, state and local government, and most important, the grass roots customers—the people, the families, the students, and the workers of Texas.

Governor's Smart Jobs Charge

The Governor began by calling on her State Job Training Coordinating Council to work with all state education, training, employment, human service, and correction agencies to develop a Smart Jobs Plan. She told the Texas Department of Commerce to **"establish a skills development program that will establish employability standards with the help of business and industry. Our goal is to graduate students and train adults to be job ready."**

A Smart Jobs Strategy: Texas Skills Development Program

The **Texas Skills Development Program** is a key long-term strategy of the Smart Jobs initiative that will assist Texas business, industry and labor to provide its skill requirements to our public education and training system. Currently there is no system or focus that permits industrywide participation in identifying the skill standards that would lead to a competitive work force, nor is there a system for graduates and workers to have their skills certified by business and industry.

A call for change: high standards required for basic, workplace and technical skills

A system of skill standards and certifications set forth by business and industry (not government or education) could revolutionize our education and training system. Not since the industrial revolution of the 1800's, has there been such a need to restructure what and how we teach to ensure that our workers and our future work force have the skills necessary for their employers to compete in a global market. Business and industry drove the first revolution—it will drive the next.

We surveyed the customer: the customers say we aren't meeting their needs

The approach we recommend to carry-out the Texas Skills Development Program was developed using "Total Quality Management" techniques. Our recommendations result from consultation with key customers—primarily business, industry and labor. The customers (employers, parents, students, workers) told us that education and training institutions are not meeting their needs for basic skills, much less high skills.

The customer's primary concern is the lack of "core competencies" and "workplace skills"

Employers told us that job applicants don't have the basic reading, writing and computation skills they need. They also told us that workers don't have vital problem-solving and analytical "think-on-your-feet" skills. These are "applied workplace skills." They told us that there is insufficient training for "Smart Jobs" —those requiring a combination of strong basic, workplace and technical skills. The bottom-line: Employers told us that education and training institutions don't teach to meet their standards.

We consulted education– they said: "Tell us what we need to do"

On the other hand, education and training institutions told us that they would teach to those standards if they knew what they were. If business and industry defined and maintained those standards and passed them on in such a way that they could be incorporated into curricula, the direct connection between what is required in the workplace and what is taught in the classroom could be made. Educators and economists told us that life-long learning is essential to ensuring that workers have the opportunity to upgrade their skills as technology and jobs change. They told us that employers also have a responsibility to ensure a quality work force–for example, restructuring of the workplace toward a high-skill, high-wage economy.

The Strategy: Teach and train to the skill standards set by business and industry

The Texas Skills Development Program offers a strategy to: 1) encourage business and industry to define their standards; 2) create a structure to disseminate their standards to education and training institutions so that curriculum can be developed to teach those standards; and 3) promote a structure for graduates and workers to be voluntarily certified by business and industry for achievement of standards.

The Research: An experiment in defining standards

Skills development in secondary and higher education, small and large business, labor organizations, in Texas, in the U.S., and world-wide, was researched. For Texas to compete globally, work force skills and standards must meet world-class benchmarks. National, state, and local experts, and international practitioners in business and education were consulted. We surveyed the competition. The skill standards of Germany, Japan, the United Kingdom, Canada, Austria, Sweden, and France were reviewed.

Using focus groups of front-line workers and supervisors from targeted businesses and industries, we experimented with different ways of deriving explicit skills for duties and tasks within specific occupations. Private employers in Texas volunteered employees' time and paid their expenses to participate in the focus groups. The Texas Skills Development Panel helped evaluate this research.

The Findings: Concern about core competencies which include basic academic content and workplace skills (resource allocation, problem-solving, team membership, etc.)

Many things were discovered that were new, hopeful, disturbing, possible, and probable. The research showed that:

- Texas business, industry, and labor recognize the need for a skilled work force and the need to change what and how we teach. Widespread concern for the abilities of students coming out of education programs at all levels prevails. The primary concern is the lack of standards for "core competencies" which include academics and "workplace" skills. In order to set those skills that are more specific to a particular occupation "benchmarked to the highest in the world," there is consensus that we must first address the core competencies of graduates and workers.

According to industry, the high school diploma does not ensure that individuals have the "core skills" needed to perform work in a high productivity environment.

Technical skills are necessary

- A skills development program must be multi-dimensional. Standards need to be set to measure competence in basic academic skills, basic workplace skills, and specific occupational–technical skills defined by industry standards.

Industry–driven curriculum

- Any curriculum must respond to expressed business and industry need. The skills we train for must be applied skills that relate directly to workplace requirements. Curriculum must be competency–based. Business and industry need a means to impact curriculum. Business and industry should participate in specifying the content of training and curriculum, setting the standards for acceptable achievement, and certifying achievement of standards.

Industry–recognized credentials

- Students and workers should be credentialed by business and industry. Education should work in partnership with business on certification of skills. Texans should be awarded "Certificates of Mastery" for different levels of achievement. For example, certificates of "Initial Mastery" for achieving core skills could be jointly awarded by the education institution and industry. "Advanced Mastery" for achieving occupational skills standards would be awarded by industry. Certificates could be supplemental to a diploma. If recognized by employers, they would be meaningful and sought after.

Sense of urgency!

- The Panel expressed a pressing need to get on with the business of developing Texas' work force skills, certifying those skills, and creating our competitive advantage in the world economy. We must accelerate the changes in the education, employment and training systems. As one panel member put it, "Let's get on with it!" We've got to move

quickly to address the compelling forces of training, trade, and transition. The Panel cited the North American Free Trade Agreement, defense conversion, meeting production standards required for exporting to the European Community, competition with the Pacific Rim, concerns about environmental affects on production, and the pace of technological change as urgent issues affecting workers and business competitiveness.

We cannot let these forces leave us behind because we did not invest in upgrading the quality of Texas' work force.

The vision which emerges is one of a highly employable work force trained to skill standards established by employers, taught by education and training institutions, certified and employed by businesses and industries which fuel a globally competitive and expanding economy.

The Vision: A highly skilled productive work force fueling a competitive and expanding Texas economy

Governor Richards has clearly stated her vision of economic expansion and work force development:

> ***"Our economic development investments must be human investments. In the New Texas Prosperity we will not just turn up the burner on education, but light a whole new fire on training our work force for the future."***

The following pages present our recommendations for "turning up the burner" and "lighting the fire" that will fuel Texas' economy.

Summary of Recommendations

Skill standards and certifications must have currency in the global marketplace and portability anywhere in Texas and in the nation.

We must make sure employers in Texas, the nation and the world know that Texas workers are certified to meet industry standards for high-skill, high-wage jobs.

1. **Adopt SCANS and set standards for core skills. Award a Certificate of Initial Mastery for achievement of core skills.**

2. **Implement a statewide system of incentives for "out-of-the-box," skill-based curriculum development and professional development.**

3. **Market the benefits of voluntary, industry-driven skill standards and certifications to the customers.**

4. **Build consensus and partnerships among business, industry, labor and education on the issue of skill standards and certifications and changing what and how we teach.**

5. **Build a structure and system to distribute industry-validated curricula and assessments by establishing a State Board of Professional and Technical Standards; coordinate with national efforts.**

6. **Institute a system to measure and certify achievement of skills for students and workers. Enhance the TAAS test to include SCANS skills and award Certificates of Initial Mastery; through the State Board of Professional and Technical Standards, work with industry to award Certificates of Advanced Mastery.**

RECOMMENDATION 1

ACCELERATE CHANGE IN THE EDUCATION AND TRAINING SYSTEM BY SETTING STANDARDS FOR CORE SKILLS TO INCLUDE FOUNDATION SKILLS AND WORKPLACE SKILLS

Adopt SCANS and set standards for "core" skills

At state and local policy levels, we must formally set and adopt standards for the core skills which employers say are fundamental to success in the workplace. These core skills and standards must include foundation knowledge in reading, writing, mathematics, speaking, listening and higher order cognitive skills, as well as knowledge of subjects such as science and geography. These skills must be taught in a manner that has application to the workplace. Workplace competencies such as the ability to allocate resources (i.e. time, money, etc.), interpersonal skills (i.e. working in teams, negotiating, serving customers), ability to organize, acquire and analyze information, ability to understand complex social and organizational systems and the ability to use technology are critical to work force preparation.

Core skills must include:
Foundations Skills
- *Reading*
- *Writing*
- *Math*
- *Higher Order Cognitive Skills*

and

Work Place Skills
- *Ability to allocate resources*
- *Work in teams*
- *Organize information*
- *Use technology*

We believe that if there exists one single strategic tool to reinvent education, it is the formal, institutional adoption of standards for workplace competencies. These are the skills that are transferrable across all industries and occupations and will be the magnet that integrates vocational-technical and academic skills.

Much of this work already has been accomplished at the national level through partnerships among business, industry, education and labor. These skills and competencies have come to be known as SCANS Skills (Secretary's Commission on Achieving Necessary Skills). We recommend that Texas adopt these competencies, set standards for them and award a Certificate of Initial Mastery when standards are achieved. It is the first step in changing what and how we teach. This step must be taken in order to get on to the higher goal of implementing industry's occupational-technical standards. State and local policy bodies must act immediately. The customers are demanding it.

We don't need to reinvent the wheel; much work on core skills has been done at the national level

Teachers and students are not the problem–it's the curriculum

Not only does Johnny need to be able to pass the algebra test, he also needs to know how algebra is used in the "real-world"

RECOMMENDATION 2

IMPLEMENT A STATEWIDE SYSTEM OF INCENTIVES FOR THE PUBLIC SCHOOLS TO ENGAGE IN CURRICULUM DEVELOPMENT AND PROFESSIONAL DEVELOPMENT

For skill standards to be useful, they must be reflected in curricula, curricula guides and assessment instruments. Also, if we are to meet our customers' standards we must equip our suppliers with the necessary tools. Educators tell us that teachers must have access to professional development to create tools and strategies for teaching "real-world" skill requirements.

The teaching of academic content in an applied context (one which links to activities, behaviors, knowledge and skills required in the work force or in adult life) should be rewarded. Schools which adopt SCANS-type instructional methods and competency-based curricula (rather than course-based) should receive incentive dollars from the state education agency.

We believe that this "applied" approach is relevant to all teaching, not just vocational education. Johnny must be able to solve the algebra problem on the test, but he also needs to know how algebra might be used in the "real-world". Texas must establish a formal system for curriculum development concerning the core skills for the public schools.

We recommend that partnerships of local educators, business and labor representatives, and state education and training agencies develop a strategic plan for a system of innovative curriculum development and teacher training for the delivery of competency, skill-based instruction. A system of funding incentives should be the strategic driver. The system should be based on student results and should allow flexibility for individual student needs. Current state funding for curriculum development should be refocused toward competency, skill-based teaching strategies.

RECOMMENDATION 3

Market the issue of Skill Standards and Certifications

"It will take more than a program, it will take a crusade"

Make sure key private and public sector partners understand the idea of "skill standards." Promote testimonials from businesses and industries who have standards in order to demonstrate the competitive advantage of a skilled work force. Show how skills development and standards can improve the results for public and private training providers. Show how a system of skill standards can ease the transition from school-to-work and from one job on a career path to the next. Create an awareness of skill standards among the "customers" of education and training (i.e. business, industry, employees, workers, students, parents, and taxpayers). Demonstrate how each "customer" will benefit from a system of skill standards and certifications:

Market the benefits of industry skill standards and certifications to the customers

- Texas employers will have the ability to better predict that new employees will have the necessary skills;
- Texas businesses will have a competitive edge in a global economy;
- Texas workers will have high-skill, high-wage smart jobs and have defined training needs for advancement;
- Graduates will be fully prepared for the workplace and will have employable skills;
- Taxpayers will reap a greater return on investment for public dollars spent on education and training.

All partners must embrace the vision and agree to be change agents to make it a reality

RECOMMENDATION 4

BUILD CONSENSUS AND PARTNERSHIPS

Involve businesses, industries, labor, and their associations working with education and training institutions to make the vision a reality. Determine which industries have specified occupational skill standards and which industries are interested in disseminating their standards to education and training institutions.

There is no reason to duplicate their efforts. Rather we should support and encourage multiplication of such efforts within the TSDP framework. Recognition of the importance of the TSDP initiative by several Texas employers was evidenced by their eagerness to participate in the focus group experiment. Their leadership will make the marketing effort easier because they will open the doors to and for their peers, colleagues and partners. This work must be part of the reform efforts of education institutions, and it is employers who must demand that it be so.

A structure must be built to sustain the system

RECOMMENDATION 5

BUILD A STRUCTURE AND SYSTEM TO DISTRIBUTE INDUSTRY-VALIDATED STANDARDS AND CURRICULA

Distribute existing industry-validated occupational-technical standards to education and training providers for incorporation into curricula and assessments.

Short-term strategy: Distribute existing industry standards for incorporation into curricula and tests

In the short term, use partnerships, allies, industry associations and current state and local programs to disseminate existing industry standards. In partnership with those industries and labor organizations which desire to participate, a clearinghouse or distribution center could be established to distribute existing standards to businesses and training institutions.

Industry, in partnership with education and labor, should have direct involvement in developing and/or influencing curricula to ensure that what is taught is relative to need. This somewhat informal structure will be viable as an initial approach for those industries which currently have occupational-technical standards and desire to disseminate them for incorporation into curricula and assessment instruments.

Consistent with the approach to work with industries which have existing standards, the Texas Department of Commerce, the Texas Education Agency and the Texas Higher Education Coordinating Board have undertaken a jointly funded skills development project.

Texas Skills Development Program Pilot Project

The purpose of the project is to build a viable method for integrating SCANS skills (foundation and workplace skills) into existing technical training curricula so that students will be able to apply SCANS skills along with state-of-the-art technical skills. This approach begins with a sharp focus on learner outcomes as defined by business, industry and labor. The project will be based upon partnerships of industry groups and education and training providers.

Texas' skill standards and certifications project will address SCANS skills and technical skills

Anticipated outcomes include: 1) an analysis of SCANS skill requirements in specific occupations; 2) enhancements to curricula that incorporate SCANS skills training into technical components; 3) recommendations and strategies for using skill-based testing and certifications for initial and advanced mastery; and 4) a professional development plan for enabling instructors to deliver the enhanced curricula in the classroom.

Project outcomes:

- *Enhanced curricula*
- *Strategies for skill-based testing and certifications*
- *Professional development plan*

Long-term Strategy:

State Board for Professional and Technical Standards (private, not-for-profit)

An industry–driven approach, in partnership with education

Close coordination with national voluntary standards systems and Texas interests

Texas would be in position to receive federal incentives

For the long term, we recommend a strategy for facilitating standards setting by industries which currently do not have standards and wish to establish them, and for those industries which have need for the continuous updating and benchmarking of standards. We recommend that a State Board of Professional and Technical Standards be established as a private, not-for-profit board chartered by the State and funded by those industries and interests which desire to participate. Board membership should be comprised by representatives from business, industry, labor, post-secondary education and training institutions. This body would coordinate closely with any national voluntary standards system, set statewide occupational performance standards, develop voluntary performance examinations, and update and modify standards. The Board would stand ready to receive anticipated federal incentives and implementation grants awarded to states positioned to embrace this approach.

RECOMMENDATION 6

INSTITUTE A SYSTEM OF INDUSTRY RECOGNIZED CERTIFICATIONS

We must measure and certify achievement of skills

Texas, as well as the nation, must develop the capability of measuring and certifying achievement of our students' and workers' core skills as well as their occupational-technical skills. This isn't going to be easy. It will take wholesale change.

The Certificate of Initial Mastery Test would enhance the TAAS test

Certification of Core Skills: We recommend that, upon adoption of core skill standards (as presented in Recommendation #1), that the state education agency, in partnership with schools and business, industry and labor, establish a Certificate of Initial Mastery for those students who achieve core skills. An assessment instrument must be developed that incorporates SCANS skills as well as basic foundation skills.

This test instrument should enhance the current Texas Assessment of Academic Skills (TAAS) test. Upon achievement of this milestone, students should be awarded the industry-recognized Certificate of Initial Mastery. The certification would serve as a powerful key for entry into higher education, technical training, the world of work and career path progression to a "smart job." It is important that we ensure that all students: 1) possess the necessary initial skills; 2) be taught based upon individual learning style; 3) have career path options that enable success in life as well as the workplace; and 4) upon attainment of skills, be fully recognized for their achievement level.

Certification of Occupational–Technical Skills: Establishing a voluntary system of industry-recognized certifications for occupational-technical skills will require the leadership of business and industry at the national, state and local levels. It will require private-public financing arrangements. Developing standards and certification systems can be expensive. Texas should make sure it gets the federal dollars it deserves by working with current national skills development projects. For industries which desire to establish skill standards and certifications, two elements are critical: 1) mobilization of Texas business, industry and labor, in partnership with national efforts; and 2) establishment of a structure such as the State Board of Professional and Technical Standards or an industry-sponsored Skills Corporation.

The Certificates of Advanced Mastery would be recognized by both industry and labor

A formal structure voluntarily organized by business, industry and labor is necessary to support the standards setting process, participate in curriculum development and provide oversight to the legal implications of certification. **We recommend that upon familiarizing business, industry and labor with the issue of industry skill standards and certifications, the Governor solicit support for a formal structure to award industry certifications.**

Texas must mobilize business, industry and labor if we are to have an occupational-technical skills certification system

Conclusion: We must enlist the full support of all customers

CONCLUSION

The **Texas Skills Development Program** is a major undertaking that demands concentrated support from all sectors involved in Texas' economy. We want to enlist the full support of business, industry, labor and public allies who will benefit from designing and establishing a skill standards and certification system. All Texans are acknowledged as "customers" in this endeavor and should share equal responsibility as well as full benefits. We don't purport to know all the answers—this is only the beginning. The "customers" will create the demand for quality, high–skills training that meets industry standards and will ultimately design the system. Without a doubt, we know that success depends on aggressively linking the needs of business and industry with the educational objectives of our training institutions. The stakes are high and our standards must be high; the future prosperity of Texans, and Texas' place as a player in the global economy are the prizes.

If you support a Texas skill standards and certification system, and would like additional information or to contribute ideas, please contact:

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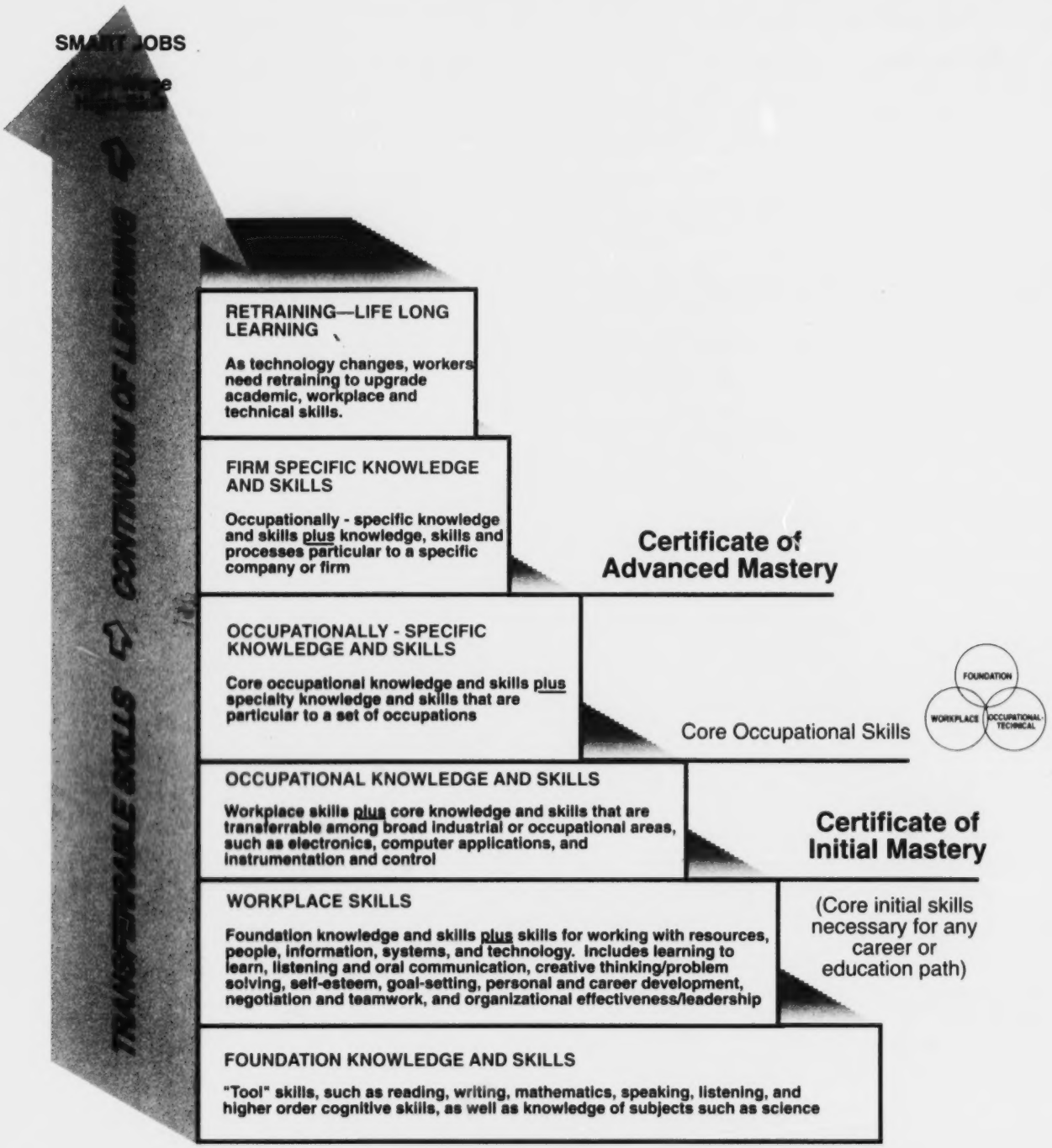
APPENDICES

CAREER PATH SKILLS LEADING TO SMART JOBS


SMART JOBS
TRANSFERRABLE SKILLS ⇨ CONTINUUM OF LEARNING
RETRAINING—LIFE LONG LEARNING
As technology changes, workers need retraining to upgrade academic, workplace and technical skills.
FIRM SPECIFIC KNOWLEDGE AND SKILLS
Occupationally - specific knowledge and skills plus knowledge, skills and processes particular to a specific company or firm
Certificate of Advanced Mastery
OCCUPATIONALLY - SPECIFIC KNOWLEDGE AND SKILLS
Core occupational knowledge and skills plus specialty knowledge and skills that are particular to a set of occupations
Core Occupational Skills
FOUNDATION
WORKPLACE
OCCUPATIONAL-TECHNICAL
OCCUPATIONAL KNOWLEDGE AND SKILLS
Workplace skills plus core knowledge and skills that are transferrable among broad industrial or occupational areas, such as electronics, computer applications, and instrumentation and control
Certificate of Initial Mastery
WORKPLACE SKILLS
Foundation knowledge and skills plus skills for working with resources, people, information, systems, and technology. Includes learning to learn, listening and oral communication, creative thinking/problem solving, self-esteem, goal-setting, personal and career development, negotiation and teamwork, and organizational effectiveness/leadership
(Core initial skills necessary for any career or education path)
FOUNDATION KNOWLEDGE AND SKILLS
"Tool" skills, such as reading, writing, mathematics, speaking, listening, and higher order cognitive skills, as well as knowledge of subjects such as science

Skill advancement must be recognized as a continuum of learning throughout life. Core skills should be transferrable across occupational areas. While this chart delineates the various types of necessary skills, it is important to acknowledge that core skills should be taught in an integrated fashion and core skill levels must advance as the student or worker progresses on his/her education career path.

TEXAS SKILLS DEVELOPMENT PROGRAM

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Boyd, Jim (January, 1993). National Governor's Association Labor Notes. Quality Workforce Planning in Texas: A Market Driven Initiative.

Dennis, David (August, 1993). Journal of Texas Public Education. Skill Standards and Certification: A Bridge from Education to the Workplace.

Glover, Robert (January, 1993). Developing a System of Skill Standards and Certification for the Texas Work Force .

Lovett, Brenda (July, 1992). Texas Department of Commerce, Work Force Development Division. Texas Skills Development Program: A Strategy to Build a Competitive Work Force.

Texas Department of Commerce Job Training Partnership Act (JTPA) Issuance, Official Notification No. 92, 1992. The role of the Texas Skills Development Program (TSDP) in strategically addressing occupational skill and competency issues for targeted occupations.

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Urban-Lurain, Jan (April, 1993). National Governors' Association Labor Notes. Developing Industry-Based Skill Standards in Texas.

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